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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/771,240

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT

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2629

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/771,240	Applicant(s) TOMISAWA, ISAO	
	Examiner Jennifer T. Nguyen	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is responsive to amendment filed 08/30/07.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a recording device for recording a result of the intensity or chromacity adjustment” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 12, and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suyama et al. (Patent No.: US 7,002,532) in view of Sullivan (Patent No.: US 6,377,229) and further in view of Kojima et al. (Patent No.: US 6,313,816).

Regarding claims 1, 2, 20, and 21, Suyama teaches a display apparatus comprising: a plurality of display devices (2102 and 2103, fig. 34) disposed on a line of sight of an observer (2101) in front and rear relation to one another for superposing and displaying a plurality of images on an object to be displayed on said line of sight (col. 26, lines 4-43);

an intensity adjustment device (2104) for adjusting intensity of light emitted by at least one display device of said plurality of display devices so that the intensity difference between the light having maximum intensity in an observation position of said observer and the light having minimum intensity in said observation position of light respectively emitted by said plurality of devices may fall within a first predetermined range (col. 26, lines 44-62).

Suyama differs from claim 1 in that he does not specifically teach “a chromaticity adjustment device ...a second predetermined range”.

Sullivan teaches a chromaticity adjustment device (18, fig. 1) for adjusting chromaticity of light emitted by said one display device (i.e., 36) so that chromaticity coordinates in a

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observation position (12) of the light emitted by the respective arbitrarily selected two display devices (i.e., 36 and 38) of said plurality of display devices (36-42) of the light respectively emitted by said plurality of display devices distribute within a second predetermined range (fig. 16, col. 17, lines 31-65 and col. 24, lines 31-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the chromaticity adjustment device as taught by Sullivan in the system of Suyama in order to generate transition between portions of the color image display.

The combination of Suyama and Sullivan differs from claims 1, 2, 20, and 21 in that it does not specifically teach a recording device for recording a result of the intensity or chromacity adjustment.

Kojima teaches a memory device (15) for recording a result of the intensity or chromacity adjustment (col. 3, lines 40-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory device as taught by Kojima in the system of the combination of Suyama and Sullivan in order to avoid a problem of a color variation and a uniform image display quality can be stably manufactured.

Regarding claims 3 and 4, Suyama teaches said maximum intensity is $C1$ (the intensity of the object on 2102) and said minimum intensity is $C2$ (the intensity of the object on 2103) (col. 2, lines 54-61, col. 26, lines 4-56), although Suyama does not specifically teach said intensity difference is expressed by $(C1-C2)/(C1+C2)$, and said first predetermined range is equal to or less than 0.15 and less than 0.075. However, Suyama suggest the intensity level can be adjusted freely in different levels (col. 27, lines 24-33). Therefore, it would have been obvious to obtain the range is ≤ 0.15 or < 0.075 in order to prevent a existence of the variation in intensity.

Regarding claims 5 and 6, the combination of Suyama, Sullivan, and Kojima teaches the chromaticity coordinates are chromaticity coordinates indicated by the XYZ color system, and said second predetermined range is a range in which the difference between x coordinates and the difference between y coordinates of said chromaticity coordinates (col. 24, lines 31-53 of Sullivan). Although Suyama does not specifically teach the range is equal to or less than 0.06 or 0.03 respectively. However, it would have been obvious to obtain this range in order to prevent an existence of the variation transition between portions of the color image display.

Regarding claims 7 and 9, the combination of Suyama, Sullivan, and Kojima teaches said plurality of display devices can perform display in R, G, and B colors, and at least one of said intensity adjustment device and said chromaticity adjustment device performs adjustment on the light with respect to the R, G, and B colors (col. 18, line 58 to col. 19, line 5 of Sullivan).

Regarding claim 8, Suyama teaches said intensity adjustment device performs adjustment on white light emitted by said one display device (col. 11, lines 6-16).

Regarding claim 12, the combination of Suyama, Sullivan and Kojima teaches gradients of intensity change within the respective screens of said plurality of display devices are equal to each other (col. 11, lines 5-50 of Suyama).

Regarding claim 15, Suyama teaches said intensity adjustment device performs adjustment by rewriting image information on at least one of intensity and chromaticity that said one display device has (col. 22, lines 1-35).

Regarding claim 16, the combination of Suyama, Sullivan, and Kojima teaches an input device (14) that can input an instruction for adjusting chromaticity of said light, wherein said

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chromaticity adjustment device performs adjustment according to said instruction (col. 5, lines 29-37, col. 18, line 58 to col. 19, line 5 of Sullivan).

Regarding claim 17, the combination of Suyama, Sullivan, and Kojima teaches at least display devices other than a display device disposed most rearward seen from said observer of said plurality of display devices are constituted by a translucent display device (col. 29, lines 22-27 of Sullivan).

Regarding claim 18, the combination of Suyama, Sullivan, and Kojima teaches said translucent display device is a liquid crystal display device (col. 6, lines 49-53 of Sullivan).

Regarding claim 19, the combination of Suyama and Sullivan teaches said plurality of display devices include a display device constituted by a half mirror (col. 50, lines 29-39 of Suyama).

5. Claims 10, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suyama et al. (Patent No.: US 7,002,532), Sullivan (Patent No.: US 6,377,229) in view of Kojima et al. (Patent No.: US 6,313,816) and further in view of Okazaki et al. (Patent No.: US 6,411,047).

Regarding claim 10, the combination of Suyama, Sullivan, and Kojima differs from claim 10 in that it does not specifically teach said chromaticity adjustment device performs adjustment on the light emitted by respective screen piece units as units into which said one display device is divided within its screen.

Okazaki teaches a chromaticity adjustment device performs adjustment on the light emitted by respective screen piece units as units into which said one display device is divided within its screen (col. 4, line 7-16, col. 4, line 65 to col. 5, line 3). Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to incorporate the screen piece units as taught by Okazaki in the system of the combination of Suyama, Sullivan, and Kojima in order to drive the display images more efficiently.

Regarding claim 11, the combination of Suyama, Sullivan, Kojima, and Okazaki teaches said screen piece unit is a group of a plurality of pixels in said one display device (col. 4, line 7-16, fig. 2).

Regarding claims 13 and 14, the combination of Suyama, Sullivan, Kojima, and Okazaki teaches said chromaticity adjustment device adjusts the chromaticity of said light so that color irregularities of said one display device and color irregularities of another display device of said plurality of display devices may have the same tendency to each other (col. 7, lines 15-19 of Okazaki).

6. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T. Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Nguyen
11/7/07



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